

WHAT IS CLAIMED IS:

- 1 1. A method for internet protocol (IP) address selection, comprising the steps of:
 - 2 assigning a single domain name to a set of server IP addresses;
 - 3 receiving a request for the domain name from a client IP address;
 - 4 retrieving a set of IP routes linking the server IP addresses and the client IP
 - 5 address; and
 - 6 selecting an IP route from the set of routes which meets predetermined criteria.
- 1 2. The method of claim 1 wherein the retrieving step includes the step of:
 - 2 retrieving the set of IP routes from a cache database.
- 1 3. The method of claim 1 wherein the retrieving step includes the step of:
 - 2 retrieving the set of IP routes from an IP routes database.
- 1 4. The method of claim 1 wherein the retrieving step includes the step of:
 - 2 retrieving the set of IP routes from a set of routers using a BGP protocol.
- 1 5. The method of claim 1 wherein the retrieving step includes the step of:
 - 2 retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval)
 - 3 protocol.
- 1 6. The method of claim 1 wherein the retrieving step includes the step of:
 - 2 retrieving the set of IP routes from a set of routers using a Telnet protocol.

- 1 7. The method of claim 1 wherein the selecting step includes the step of:
2 selecting the IP route from the set which has a shortest AS path.
- 1 8. The method of claim 1 wherein the selecting step includes the step of:
2 selecting the IP route from the set which has a lowest origin type.
- 1 9. The method of claim 1 wherein the selecting step includes the step of:
2 selecting the IP route from the set which has a lowest MED.
- 1 10. The method of claim 1 wherein the selecting step includes the step of:
2 selecting the IP route from the set equal to a default IP address.
- 1 11. The method of claim 1 further comprising the step of:
2 storing the IP routes in a cache database.
- 1 12. The method of claim 1 further comprising the step of:
2 storing the IP routes in an IP routes database.
- 1 13. The method of claim 1 further comprising the step of:
2 defining an enhanced address resource record, including a domain name, a list of
3 corresponding servers and routers, router retrieval parameters, a default client/server IP
4 route, and timeouts.

1 14. The method of claim 1 further comprising the step of:
2 transmitting an IP address from the set of server IP addresses which corresponds
3 to the selected IP route.

1 15. A computer-usable medium embodying computer program code for commanding a
2 computer to perform internet protocol address selection, comprising the steps of:
3 assigning a single domain name to a set of server IP addresses;
4 receiving a request for the domain name from a client IP address;
5 retrieving a set of IP routes linking the server IP addresses and the client IP
6 address; and
7 selecting an IP route from the set of routes which meets predetermined criteria.

1 16. The computer-usable medium of claim 15 wherein the retrieving step includes the
2 step of:
3 retrieving the set of IP routes from a cache database.

1 17. The computer-usable medium of claim 15 wherein the retrieving step includes the
2 step of:
3 retrieving the set of IP routes from a set of routers using a BGP protocol.

1 18. The computer-usable medium of claim 15 wherein the retrieving step includes the
2 step of:
3 retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval)
4 protocol.

1 19. The computer-usable medium of claim 15 wherein the retrieving step includes the
2 step of:
3 retrieving the set of IP routes from a set of routers using a Telnet protocol.

1 20. The computer-usable medium of claim 15 wherein the selecting step includes the
2 step of:
3 selecting the IP route from the set which has a shortest AS path.

1 21. The computer-usable medium of claim 15 wherein the selecting step includes the
2 step of:
3 selecting the IP route from the set which has a lowest origin type.

1 22. The computer-usable medium of claim 15 wherein the selecting step includes the
2 step of:
3 selecting the IP route from the set which has a lowest MED.

1 23. The computer-usable medium of claim 15 wherein the selecting step includes the
2 step of:
3 selecting the IP route from the set equal to a default IP address.

1 24. The computer-usable medium of claim 15 further comprising the step of:
2 transmitting an IP address from the set of server IP addresses which corresponds
3 to the selected IP route.

1 25. A system for internet protocol (IP) address selection comprising a:
2 a set of servers, having a single domain name;
3 a client computer;
4 a set of routers, coupled to the servers and the client computer, for storing IP
5 routes between the servers and the client; and
6 a domain name system server, coupled to the routers, for selecting one of the IP
7 routes which meets predetermined criteria.

1 26. The system of claim 25 further comprising:
2 a cache database, coupled to the domain name system server, for storing
3 previously selected IP routes.

1 27. The system of claim 25 further comprising:
2 an IP routes database, coupled to the domain name system server, for storing all of
3 the IP routes.

1 28. The system of claim 25 wherein:
2 the domain name system server includes an enhanced address resource record
3 storing the single domain name, a list of the servers and routers, a set of router retrieval
4 parameters, a default IP route, and timeouts; and
5 the domain name system server accesses the retrieval parameters in order to select
6 the IP routes.